

Revisiting the relationship between equity and efficiency in PES

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Outline

1. The Neoclassical platitudes and the need to move beyond
2. A political economy approach to analyse equity and efficiency effects of PES
3. Conclusions

Introduction

- Main issue: A Coasean approach is insufficient to understand the relationship between equity and efficiency in PES
- A conceptual (institutionalist) approach beyond Neoclassical platitudes is needed
- We try to provide answers to:
 - What is the role of social perceptions of economic fairness in the performance of PES ?
 - What are the key factors conditioning the relationship between equity and efficiency ?
 - What are the limitations of the conventional Neoclassical approach towards PES?

1. Moving beyond Neoclassical platitudes

- So far, the foundation of PES programs is predominantly based on neoclassical economics
- Main assumption: If transaction costs are low enough and property rights are well allocated, individuals would trade their rights away towards a Paretian solution, provided that an enabling institutional environment exists

Based upon this “Coasean” approach, some authors have adopted a prescriptive stand about what a scheme of PES should be

For example, Wunder (2007) and Engel et al. (2008) define PES as follows:

“*A voluntary transaction where a well-defined environmental service is being bought by a buyer from a service provider if and only if the provider secures the provision (conditionality)*”

Three conditions for the design of “genuine” PES:

- The relationship between the promoted land use and the provision of the environmental service must be very clear
- Stakeholders must have the possibility to bring to an end the contractual relationship (voluntary transaction)
- A monitoring system must be in place, in order to ensure that the provision of services is taking place.

On the distributional side, this Coasean view has been complemented with a “pro-poor” concern

To what extent the poor are willing and able to participate as providers of environmental services

Some problems:

- Most cases do not comply with the prescriptive conditions = “PES-like”
- The efficiency of PES schemes can hardly be demonstrated in practice (high uncertainty, transaction costs)
- Distributional issues and trade-offs are neglected
- Institutional analysis is limited to “market-enabling” aspects
- The conditions of participation (of the poor) and the role of social relations (including power) and perceptions are not a key concern (for the analysis or design)

2. A political economy approach

- “**Policy trade-off curve (PTOC)** identifies the potential combination between the efficiency gain and equity effect given the institutional context and the set of economic and ecological factors
 - **Efficiency Gain (EG)** => [Gross welfare gains for the target population] – [total cost incurred] measured in standard NPV of program
 - **Equity Effect (EE)** => net impact on inequality, measured, e.g., income Gini (among others), among the target population

2.1 Factors setting the sign of the impacts (quadrants)

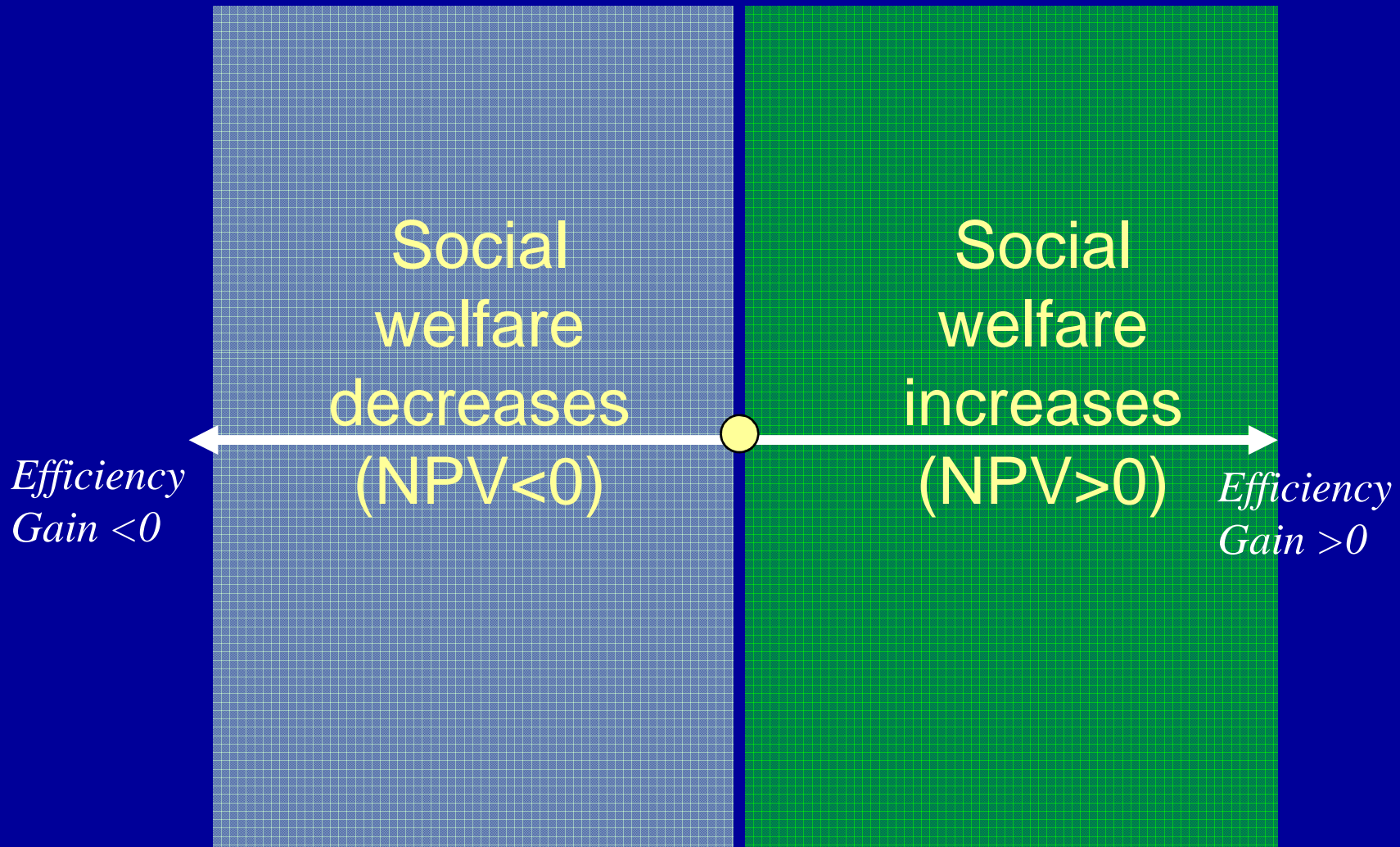
1. Factors affecting the Efficiency Gain:

- Level of environmental additionality
- Economic value of the ES
- Cost of implementation of the scheme including transaction and opportunity costs

2. Factors affecting the Equity Effect:

- Identification of stakeholders (target population or reference set of participants)
- Initial endowment among agents
- Evaluative space (e.g., income, capabilities, etc.)

The PTOC: Efficiency Gain



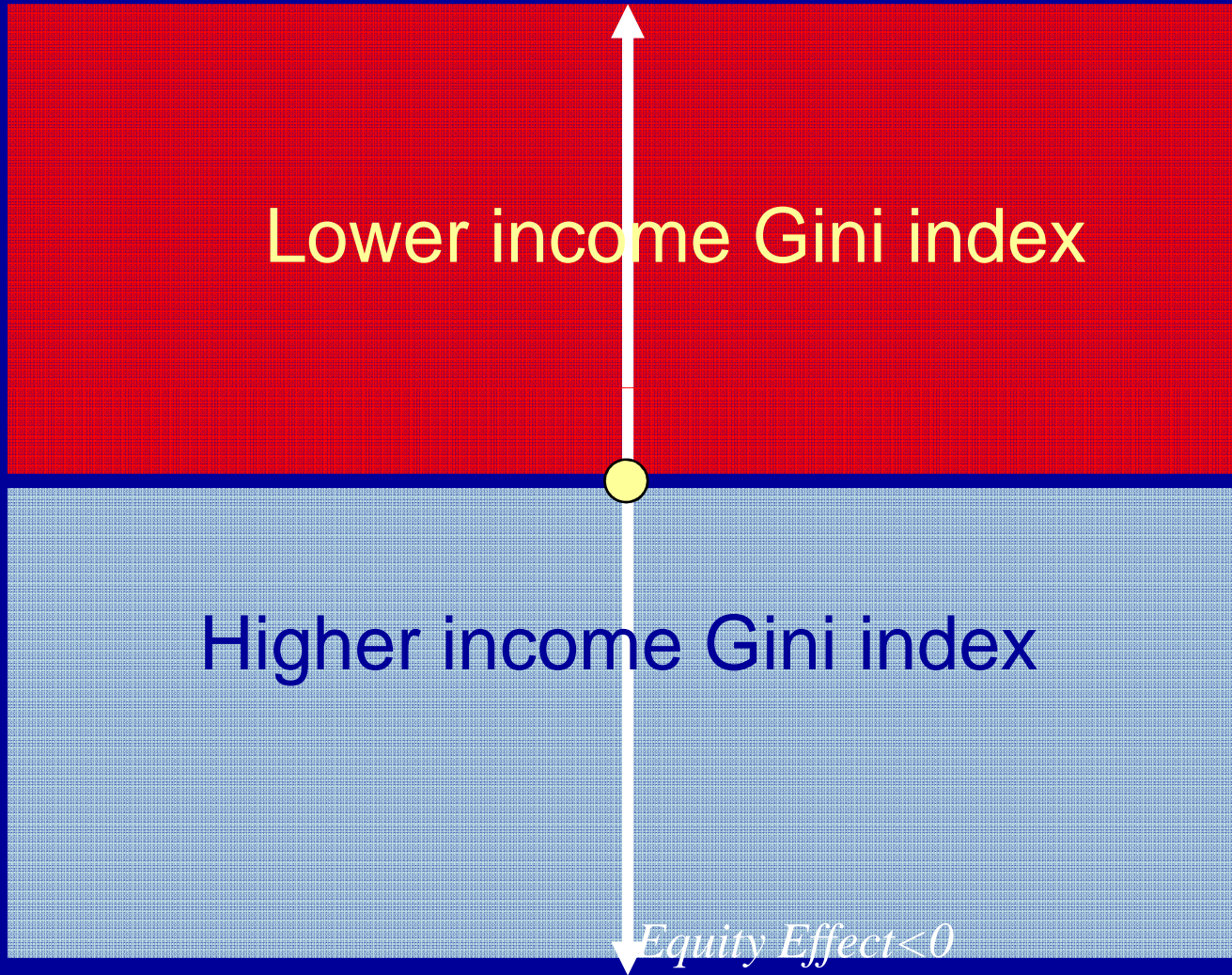
The PTOC: Equity Effect

Equity Effect > 0

Lower income Gini index

Higher income Gini index

Equity Effect < 0



The PTOC : Trade-offs



2.2 Economic fairness criteria

1. **Compensation:** based on compensate landholders for the cost of their actions to provide ES.
2. **Consensus:** group decision making to estimate the payment amount
3. **Egalitarian:** The received payment should be equal for all the participants
4. **Horizontal equity:** similar provision of ES should receive similar level of payments
5. **Kantian allocation rule:** each landholder considering her costs might choose a level of provision of ES at least as large as the uniform provision level she would like all landholders to assume, and receive the payment that correspond to that uniform provision level
6. **Maxi-min:** payments should maximize the net benefit for the poorest landholders
7. **Provision reward:** the amount of payment correlated with the provision of ES
8. **Relative deprivation:** payments should reduce the subjective perception of inequality
9. **Sovereignty:** the payment should maintain the relative income levels between the participants of the program
10. **Vertical equity:** a meritocratic approach, land of higher quality for the provision of ES should receive larger payments

Economic fairness criteria



- **Level 1:** Design stage (capacity of stakeholders to influence the actual distribution criterion)
- **Level 2:** Local perceptions of distributive justice of implemented PES among agents



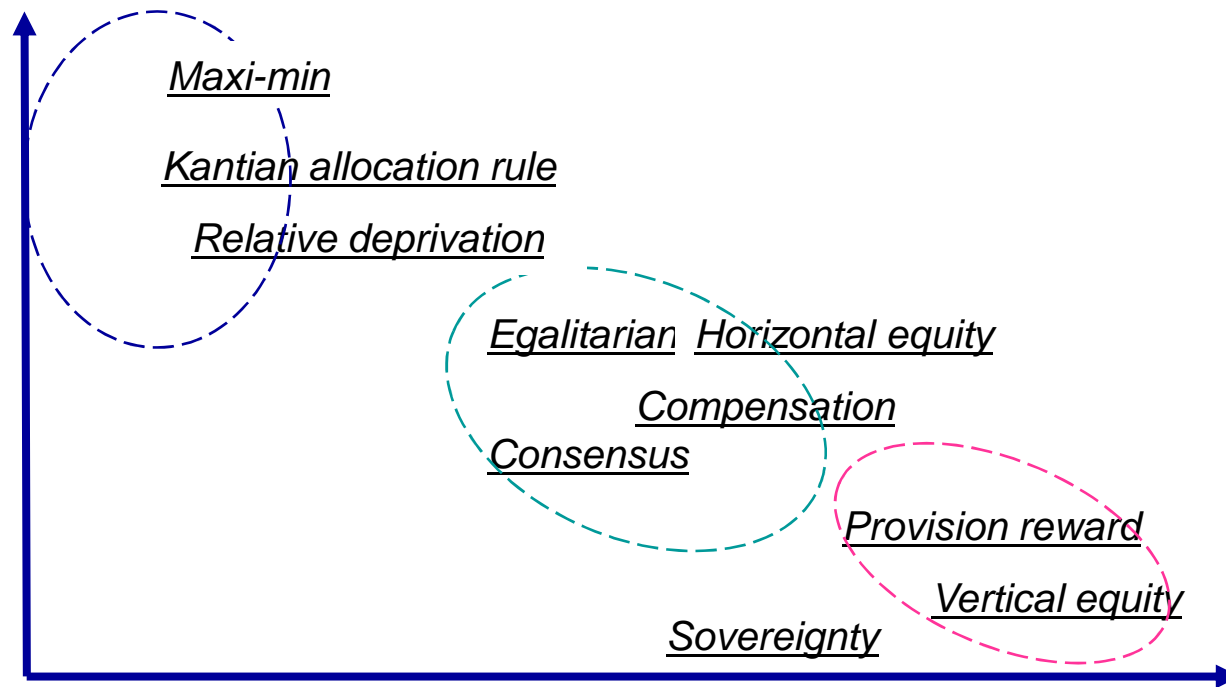
Cooperation / conflicts / legitimacy



Long term feasibility of PES

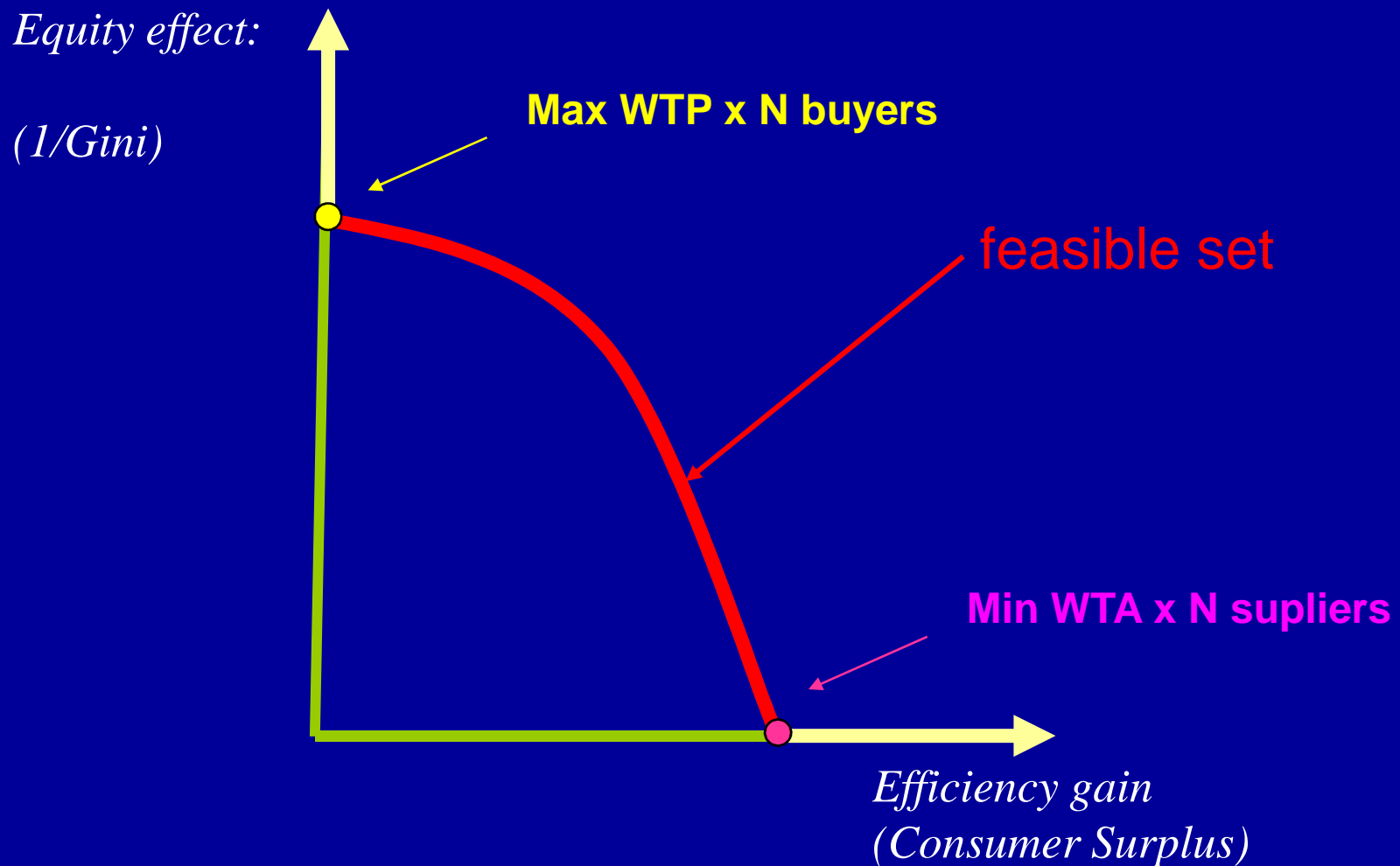
Notions of fairness for PES design

Design favouring equity concerns



*Design favouring efficiency concerns
(environmental additionality)*

2.3 Factors affecting the shape of the Policy Trade-Off Curve



Factors affecting the shape of the PTOC

PTOC depends on factors affecting the size of the transfer of resources between ES beneficiaries and providers (EE) and its distribution:

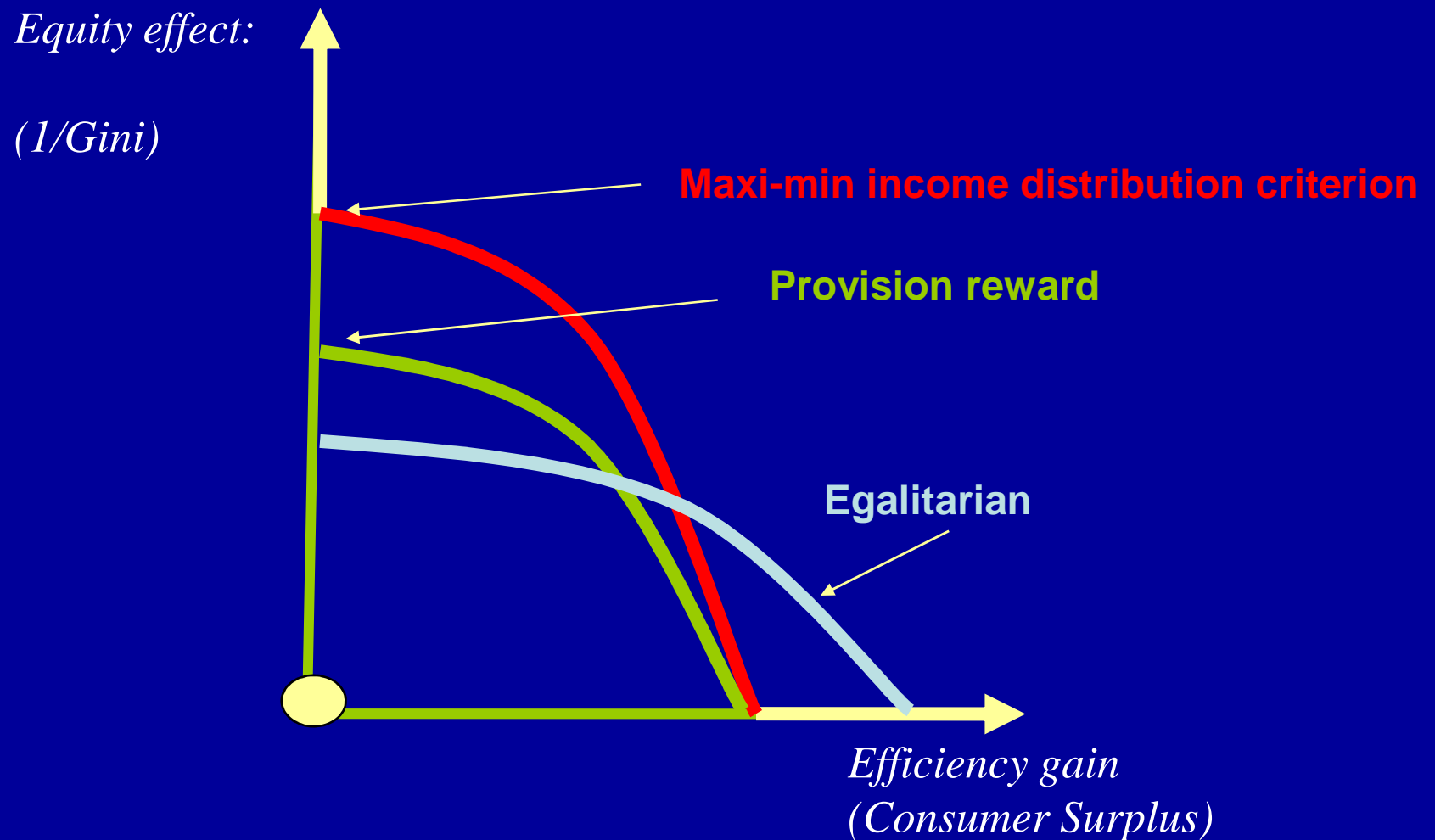
Size

- Maximum WTP of buyers
- Minimum WTA compensation
- Number and heterogeneity of stakeholders
- Level of implementation costs

Distribution

- Prevailing economic fairness criterion at PES design stage

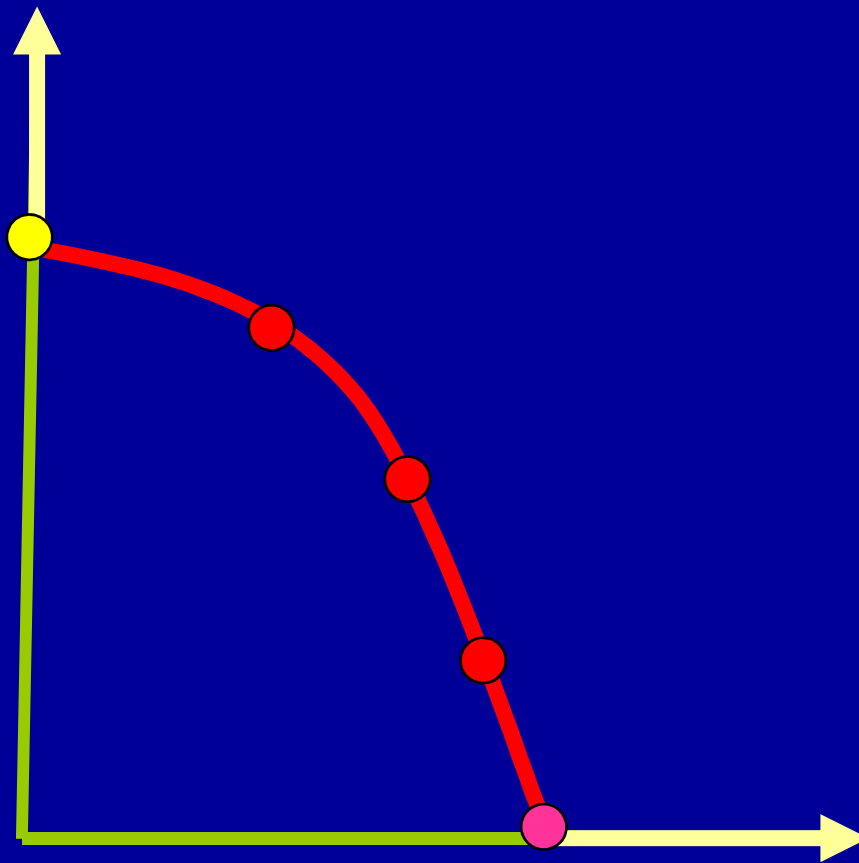
The role of the prevailing economic fairness criterion in shaping the PTOC



2.4 Factors affecting the Actual position in the curve

Equity effect:

(1/Gini)



*Efficiency gain
(Consumer Surplus)*

Institutional factors conditioning the actual position in the PTOC

- Agents' bargaining power and their relationship with the intermediary:
 - Political empowerment
 - Level of market power
 - Level of association
- Intermediary's capacity to mediate between the interest of agents:
 - Management of information and uncertainty
 - Negotiation ability to avoid free riding among beneficiaries
 - Magnitude and management of transaction costs and
 - Reputation

3. Conclusions

- We identify 5 issues that should form the core of a conceptual model for understanding PES beyond a Coasean approach
 - Trade-offs between efficiency and equity. This includes distribution of rights and other institutional factors affecting this relationship
 - Economic fairness / distributive justice considerations
 - Implications of high uncertainty
 - Role of conventions, shared beliefs and perceptions
 - Role of the intermediary